KineticSystems Corporation

Standardized Data Acquisition and Control Systems

3922

Parallel Bus Crate Controller

FEATURES

- Forms a dedicated Q-bus™ interface with a 2922 card or VME interface with a 2916 card
- Forms a dedicated PC interface with an associated 2926, 2928, or 2932 card
- Field-selectable as a main or auxiliary crate controller
- Up to eight crate controllers addressed on a single bus
- Supports DMA with 2922, 2926, and 2928 and block transfers with 2916 and 2932
- Includes a 24-bit LAM mask
- Interface connection made via a 40-wire, rear ribbon cable
- Contains RS-485 balanced-line signalling for high noise immunity
- Supports interface bus lengths up to 91 meters (300 feet)

APPLICATIONS

- Interface to DIGITAL Q-bus computers or VME-based computers
- Interface to IBM PC/AT®, PS/2®, or Macintosh II™
- General-purpose data acquisition and control
- Laboratory automation
- Industrial process control
- Remote distributed systems
- Replacement for Parallel Highway systems

GENERAL DESCRIPTION

The Model 3922 is a double-width CAMAC crate controller that connects to the associated computer interface card via a parallel bus. When used with the Model 2926 or 2928 interface card, the combination forms a computer-based CAMAC system with an IBM PC/AT or PS/2 or compatible processor as the host. The Model 2922 interface card can also be used with the 3922 to form a DIGITAL Q-bus based CAMAC system. A Macintosh II host is interfaced using the Model 2932, and any VME-based computer is interfaced using the Model 2916.

Up to eight 3922s can be addressed on the interface bus. The crate address (0 through 7) is selected by a front-panel switch. A single 40-wire ribbon cable is connected to the computer interface card and looped-through the crate controllers. Interface bus connections are made at the rear of each 3922. The last 3922 terminates the bus. RS-485 balanced-line signalling is used on the interface bus to allow reliable operation with up to 91 meters (300 feet) of total bus length. Twisted-pair, flat-ribbon bus cable enhances data integrity. The eight-bit interface bus is multiplexed for address and data transfer. Appropriate control/response signals are also included.

The 3922 supports the DMA capabilities of the 2922, 2926, and 2928 adapters. Sixteen-bit DMA data is transferred at rates up to one megabyte per second for the Model 2922, and 250 kilobytes per second for the 2926, and 500 kilobytes per second for the 2928. Block transfers are supported when interfacing to a computer with the 2916 VME adapter or 2932 Macintosh II adapter.

A 24-bit LAM mask is included to simplify the host software. A "Selected LAM Present" causes a service request to the computer interface. A parallel poll is performed to determine which 3922s are requesting service.
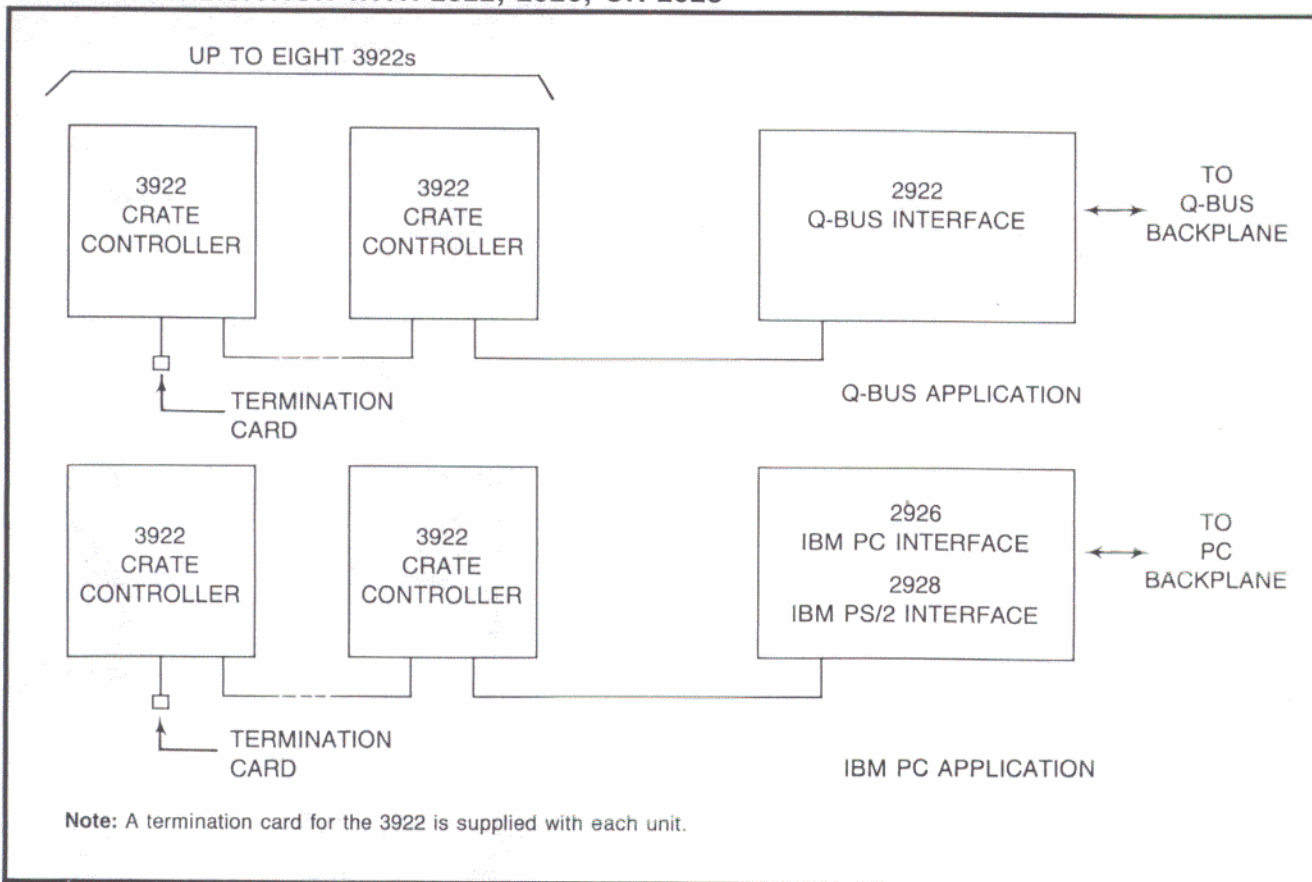
This module is configured at the factory as a main crate controller. It can be changed in the field to function as an auxiliary crate controller. An additional 40-contact, rear-panel connector is then used for the Auxiliary Controller Bus.
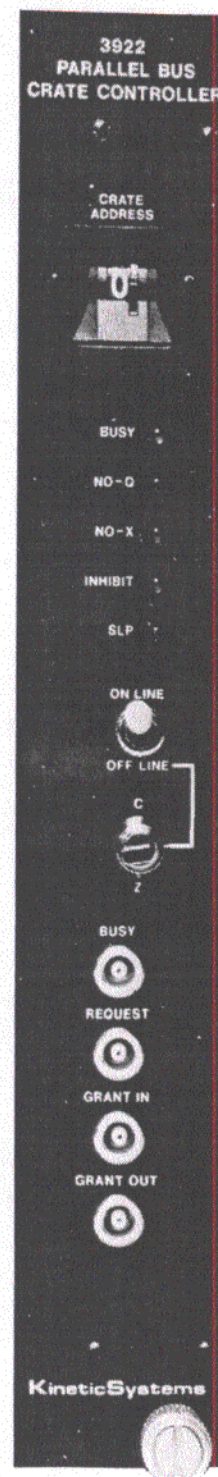
INTERNAL REGISTERS (N = 30)

Command		Q	Description
F(1)·A(0)	RD2	on-line	Reads Control/Status register
F(1)·A(12)	RD2	on-line	Reads LAM Pattern
F(1)·A(13)	RD2	on-line	Reads LAM Mask
F(17)·A(0)	WT2	on-line	Writes Control/Status register
F(17)·A(13)	WT2	on-line	Writes LAM Mask

Notes: 1. X = 1 for all valid addressed commands.
2. Q = 1 for all valid addressed commands when the 3922 is set on-line by the front-panel switch.

TYPICAL APPLICATION WITH 2922, 2926, OR 2928

UP TO EIGHT 3922s

3922 CRATE CONTROLLER   3922 CRATE CONTROLLER   2922 Q-BUS INTERFACE → TO Q-BUS BACKPLANE

TERMINATION CARD   Q-BUS APPLICATION

3922 CRATE CONTROLLER   3922 CRATE CONTROLLER   2926 IBM PC INTERFACE / 2928 IBM PS/2 INTERFACE → TO PC BACKPLANE

TERMINATION CARD   IBM PC APPLICATION

Note: A termination card for the 3922 is supplied with each unit.

POWER REQUIREMENTS

+6 volts — 3300 mA

ORDERING INFORMATION

Weight: 1.2 kg (2 lb. 9 oz.)

Model 3922-Z1B — Parallel Bus Crate Controller (replaces the Model 3922-Z1A)

Accessories — Model 5843-Txyz Twisted-pair, Flat-ribbon Cable Assembly (required)
Model 2916-Z1A VME Interface
Model 2922-Z1B Q-bus Adapter
Model 2926-Z1A IBM PC Interface with DMA
Model 2928-Z1A IBM PS/2 Interface
Model 2932-Z1A Macintosh II Interface

Note: See Models 6110, 6132, 6134, 6136, 6310, 6610, 6635, and 6710 data sheets for information regarding Software for the Model 3922.

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